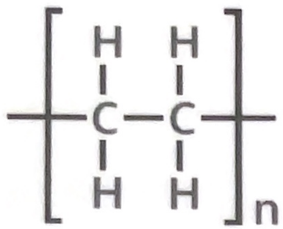
# A GUIDE TO COMMON HOUSEHOLD PLASTICS

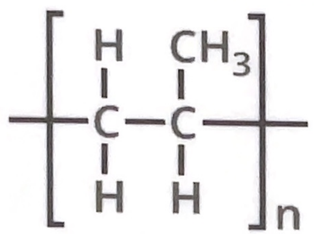
Plastics are substances called polymers – these are long, chain-like molecules, formed from many smaller molecules. We use a number of different plastics in our day-to-day lives. This graphic looks at uses of the most frequently encountered, along with their chemical structures.

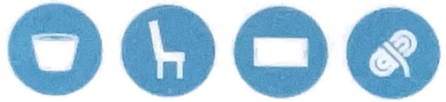
## PE POLYETHENE



Polyethene is the most produced plastic, and comes in a number of different forms, including high density polyethene (HDPE) and low density polyethene (LDPE). It is used in plastic bags, bottles, plastic films, piping, and toys. It is not biodegradable.

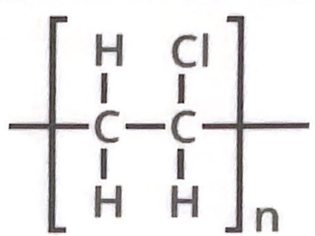
## PP POLYPROPENE





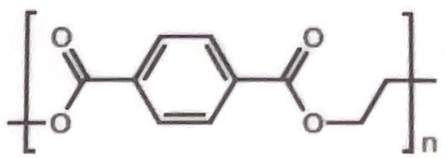
Polypropene is particularly resistant to heat, physical damage, and corrosion. As a consequence, it is commonly used in food containers, carpets and rugs, ropes, plastic furniture, and piping. It's also used to make items for medical or laboratory uses.

## PVC POLYVINYLCHLORIDE



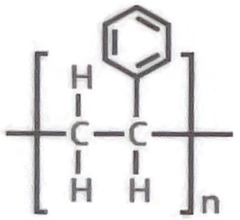
PVC comes in both rigid and flexible forms. In its rigid form, it can be used for window and door frames, piping, and bank cards. By adding plasticisers, a more flexible form can be obtained, which is used in electric cable insulation, and as a rubber substitute.

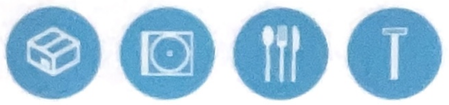
## PET POLYETHYLENE TEREPHTHALATE



PET is a lightweight polymer, and comes in forms of varying rigidity. It's commonly used for plastic drink bottles, and also for clothing fibres (where it's often referred to generally as 'polyester'). Additionally, it's used in ready meal packing and tapes.

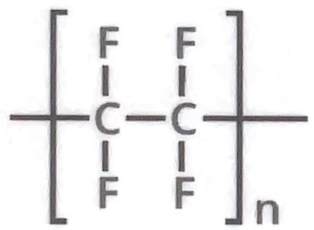
## PS POLYSTYRENE





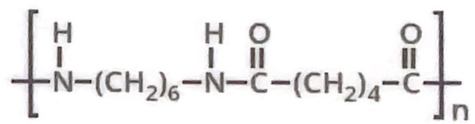
Polystyrene is one of the most widely used plastics. It's used in its solid form to produce plastic cutlery, CD cases, and disposable razors, whilst as a foam it's used in packing materials, building insulation, and foam containers for food and drink.

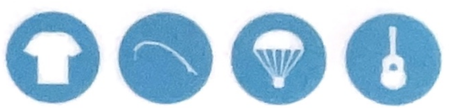
## PTFE POLYTETRAFLUOROETHENE



PTFE's well-known brand name is Teflon. It's a very unreactive polymer, and is used in non-stick coatings on cookware. Gore-tex fabrics also contain PTFE-based fibres. It also has applications as a lubricant, and as insulation for electric wires and cables.

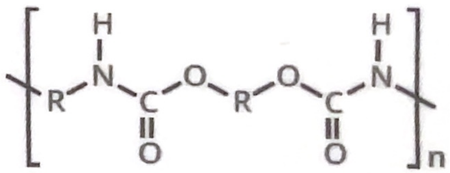
## PA NYLON (POLYAMIDE)





Nylon actually refers to a family of polymers; nylon 6,6 is shown here. It was originally intended as a synthetic silk replacement, for military applications such as parachutes. Today, it is used in clothing, guitar strings, and fishing lines.

## PU POLYURETHANE



Polyurethanes are also a family of polymers; the R group in the structure above varies. Their uses include foam seating, for both furniture & cars, non-latex condoms, shoe soles, football coatings, skateboard and roller-blade wheels, and some varnishes.

© COMPOUND INTEREST 2015 - WWW.COMPOUNDCHEM.COM | Twitter: @compoundchem | Facebook: www.facebook.com/compoundchem
CC Attribution-NonCommercial-NoDerivatives licence. Photo: CC-BY licence, Pump Aid: https://www.flickr.com/photos/worldwaterday/8534578744